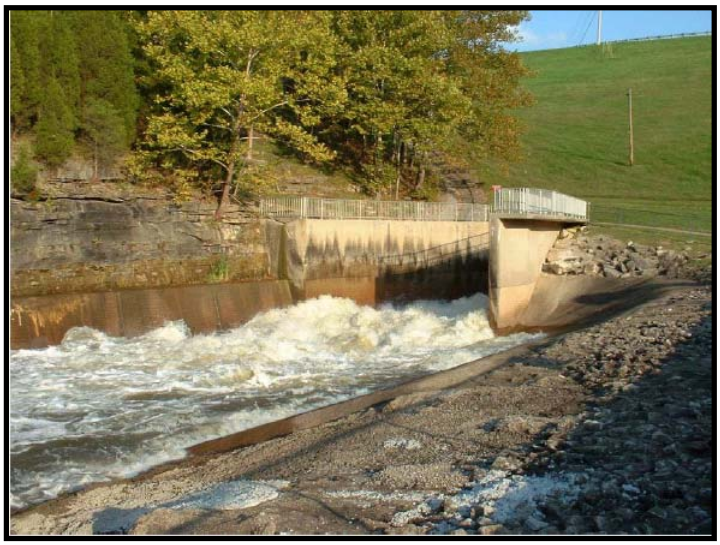
US Army Corps of Engineers®
Engineer Research and Development Center

Physical Model Study of Rough River Outlet Works Stilling Basin, Louisville, Kentucky

Description

Rough River Lake is situated in Breckinridge, Hardin, and Grayson Counties in south central Kentucky. The dam is located on the Rough River near the community of Falls of Rough, about 20 miles from Leitchfield and 95 miles southwest of Louisville.



Rough River Lake outlet bucket during high discharge

The project consists of a 1,590-ft-long, earth-fill embankment having a maximum height of 130 feet above the streambed, a gate-controlled outlet works along the base of the right abutment, and a 65-ft-wide, uncontrolled, open-cut spillway through a natural saddle in the left abutment.

Issue

The Louisville District of the Corps of Engineers designed, built, and operates the Rough River Lake project to reduce flood damages downstream from the dam. In May 2004, the District completed a Dam Safety Assurance Program Evaluation Report of the Rough River Lake. The hydraulic and hydrologic analyses for this report focused on the spillway and outlet works system of the project. Although it was determined there was a grave need for improvements to the system, investigative results also showed there was (1) no hydraulic design criteria consistent with Rough River outlet works system, and (2) no applicable guidance that covered energy dissipation methods for reservoir outlet works systems for all flow regimes. Consequently, physical modeling was recommended.

Sponsors

US Army Corps of Engineers, Louisville District (CELRL)

Point of Contact

Mr. Glenn Davis, US Army Engineer Research and Development Center, Coastal and Hydraulics Laboratory, CEERDC-HN-HI,
3909 Halls Ferry Road, Vicksburg, MS 39180-6199
e-mail: Glenn.Davis@erdc.usace.army.mil